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ABSTRACT

Ohio vocational education teachers' awareness of, attitudes toward, and use of national skill standards were examined through a survey of a proportional (by vocational program area) stratified random sample of 346 of Ohio's 3,499 secondary vocational teachers. Of the teachers surveyed, 205 (59%) returned usable responses. The teachers were questioned about their gender, vocational teaching area, educational attainment, type of high school, and teaching certification, and they were asked to agree/disagree with 62 statements concerning national skill standards. Although 59% of respondents agreed that students who have met entry-level skill standards have smoother school-to-work transitions, only 39% believed that national skill standards enhance vocational education. Of the respondents, only 37% believed that national skill standards would improve their particular program, 55% stated that national skill standards should have a positive effect on work force productivity, 60% stated that national skill standards provide the basis for measuring individuals' ability, 32% were not at all familiar with the national skill standards for their vocational program, 69% use employability skills to assess students' abilities in the vocational area they teach, and 52% believed that national skill standards will lower employer recruiting costs. (Contains 22 references.) (MN)

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VOCATIONAL TEACHERS' ATTITUDES TOWARD, KNOWLEDGE OF, AND USE OF NATIONAL SKILL STANDARDS

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VOCATIONAL TEACHERS' ATTITUDES TOWARD, KNOWLEDGE OF AND USE OF NATIONAL SKILL STANDARDS

Introduction

Many of the semiskilled jobs upon which Americans have relied are going to countries that produce workers who receive a much lower wage. This has resulted in a declining share of the international market for the U.S. In addition, competing nations with larger shares of the global market have had well-educated work forces, high-skilled manufacturing economies, and rapid adaptation of new technology (Office Educational Research and Improvement, 1995).

In the last decade, there has been an abundance of reports questioning how well the U.S. education system prepares students for employment or further education (National Commission on Secondary Vocational Education, 1984; National Commission on Excellence in Education, 1983; and Commission on the Skills of the American Workforce, 1990). Many of these reports called for higher standards and an increased emphasis on academics. Other research-based reports (Bracey, 1995, 1994, 1993, 1992, 1991 and Carson, Huelskamp, & Woodall, 1992) contradicted these findings and provided evidence that American schools are performing better than ever. Whether or not education has been effective, efforts to improve its outcomes are always desirable. One suggested approach to increase student performance and the accountability of public education would be to use national skill standards.

Skill standards have been developed to identify what knowledge and abilities a worker should possess to successfully gain and maintain employment in the workplace (Hudelson, 1993). Some occupations such as doctors, lawyers, and accountants have had state standards for some time. These professionals were required to pass tests to demonstrate their knowledge and skills (Hudelson). Skill standards helped guarantee that these individuals had the necessary requirements in their area of speciality.

Skill standards that have been developed vary greatly between occupations due to the nature of the speciality of work done. Definitions of skill standards have also varied between occupations. There are four basic areas in which standards have been set: technical skills, employability skills, related occupational knowledge, and academic skills (Hoachlander & Rahn, 1994; National FFA Foundation, 1994; Kaplan & Seymour, 1994). For certification, some occupations used a mixture of these skill areas while others may have included only one.

Skill standards that have been used in vocational education programs were often developed by educators with limited participation from business and industry. Although these standards may be accurate measures of a student's knowledge and ability, they may not have matched what is needed in industry. Hudson (1994) wrote, " . . . that if a nation is going to succeed in producing a more productive work force, schools must know definitively what industry expects of new workers" (p. 6). Business, industry and education need to work together in developing skill standards for the different occupations.

The U.S. Departments of Education and Labor awarded grants to twenty-two business, labor, and education technical committees representing a variety industries and occupations. These projects were charged with identifying and developing national skill standard.

To ensure that vocational program curriculums were matched with the needs of business and industry, the Ohio Division of Vocational and Career Education assembled the Ohio

Competency Analysis Profiles (OCAPs) for each vocational area. The development of these OCAPs involved a joint effort between business, industry, labor, and community agency representatives from throughout the state. The General Accounting Office (1993) suggested that business and industry take the leading role in this development process. Hudelson (1993) indicated that skill standards were becoming a major force of national economic and education policy.

There has been a move by some industries to voluntarily start their own national skill standards. For example, the National Institute for Automotive Service Excellence (ASE) was formed to protect citizens from the unscrupulous members and help the automobile repair industry gain back public trust. Sutphin (1994) wrote " . . . the dishonest mechanics brought about the need for certification of all auto repair technicians" (p. 26).

There have been many advocates for a national skill standard system, along with many statements of benefits for this system and the impact that it would have on the economy, educational systems, the work force, and society. Hoachlander and Rahn (1994) listed the following potential benefits of a skill standard system: (a) greater work mobility and portability of credentials; (b) higher pay; (c) greater job certainty and more job opportunities for workers; (d) more efficient recruitment, screening and placement of employees by employers; (e) clearer goals and educational pathways for students; (f) more consistent, focused instruction and curriculum; (g) greater accountability for schools, programs, teachers and students; (h) increased quality of products and services; and (i) higher consumer confidence and satisfaction (p. 20).

Glover (1992) stated that skill standards would also increase the accountability for the expenditure of public monies. Hudelson (1993) indicated that national skill standards offered accountability in the following areas: (a) national skill standards recognize workers as being certified or accomplished craftspersons; (b) skill standards would indicate the level of competence employers could expect from employees; (c) skill standards would define for teachers what knowledge and skills that industry expects of the graduates from their vocational education programs; and (d) skill standards provide a fair means for administrators to use in the evaluation of vocational education programs.

Conceptual Framework

Once skill standard systems have been developed, they will need to be properly implemented if they are going to be effective in developing training programs and certifying workers' competence. To successfully implement any new system or program, information is needed regarding individuals' awareness of the system or program. Once the awareness level has been determined, Fishbein and Ajzen (1975) stated that it is important to know the attitudes of the individuals that will be implementing the program. In addition, Fishbein and Ajzen indicated that the individuals' attitude is a major determinant in a person's performance of the behaviors in question, which in this case is the use of skill standards. Thus, if vocational teachers are to use national skill standards in their vocational programs, their awareness of and attitudes toward these skill standards should be determined prior to implementation.

Problem Statement

Performance measures and standards have the potential for impacting what is taught, how it is taught and how it is evaluated. However, vocational teachers need to be aware of and possess

positive attitudes toward skill standards if they are to use them in planning and modifying their programs. Information about vocational teachers' awareness of, attitudes toward, and use of national skill standards is not available.

Purpose and Objectives

The purpose of this study was to determine Ohio vocational teachers' awareness of, attitudes toward, and use of national skill standards. The specific objectives were to: (a) determine the awareness level of Ohio vocational teachers about national skill standards; (b) measure attitudes of Ohio vocational teachers toward national skill standards; and (c) determine the use of national skill standards by Ohio vocational teachers.

Population and Sample

The population for this study was all secondary vocational teachers within the state of Ohio (N = 3,499). A mailing list of these teachers for the 1994-95 academic year was obtained from the Ohio Department of Education stratified by program area (i.e., agriculture, business occupations, home economics, marketing, and trade and industrial). Duplicate names were purged from the list to control for selection error. For this population, Krejcie and Morgan (1970) recommended a sample size of 346. A proportional stratified random sample by program area was drawn. Table 1 displays information regarding the number of teachers by strata in the sample.

Table 1

Stratification of the Sample (n = 346)

Service area	Number of teachers	Percentage of total pop.	Sample size	Number of useable res.	Percent of respondents
Health	187	5	17	11	65
Trades and Industrial	1442	41	142	89	63
Home Economics	260	8	28	16	57
Marketing Education	319	9	31	18	58
Business Education	806	23	80	46	58
Agricultural Education	485	14	48	25	52
Total	3499	100	346	205	59

Categorical information about the respondents is presented in Table 2. The respondents included more male (51.7%) vocational teachers than female (44.7%). The trade and industrial service area had the largest number of respondents (42.4%) followed by business occupations (22.0%). These two service areas represented approximately two-thirds (64%) of the vocational teachers within the State of Ohio (Table 1).

Table 2

Categorical Demographic Information (n = 205)

Variable of interest	Frequency	Percentage
Gender:		
Male	106	51.7
Female	87	42.4
Non-response	12	5.9
Vocational Teaching Area:		
Agriculture	22	10.7
Business Occupations	45	22.0
Marketing	17	8.3
Home Economics	15	7.3
Trade and Industrial	87	42.4
Health	7	3.4
Non-response	12	5.9
Highest Educational Level:		
High School Diploma	32	15.6
Associate Degree	19	9.3
Bachelor's Degree	71	34.6
Master's Degree	71	34.6
Non-response	12	5.9
Type of High School:		
Comprehensive	80	39.0
Joint Vocational School	108	52.7
Non-response	17	8.3
Initial Teaching Certification:		
Alternative Certification	88	42.9
Bachelor's Degree	102	49.8
Master's Degree	4	2.0
Non-response	11	5.4
Technically Certified:		
Yes	162	79.0
No	30	14.6
Non-response	13	6.3

From this sample of vocational teachers, slightly more than two-thirds (69.2%) had completed a bachelor's (34.6%) or master's (34.6%) degree. Teachers with an associate's degree or less represented slightly less than one-fourth (24.9%) of the teachers. Slightly more than one-half (52.7%) of the respondents indicated they taught in joint vocational schools. The most common way that respondents received their initial certification was by the means of a

bachelor's degree (49.8%). More than three-fourths of the respondents (79.0%) indicated that they were technically certified.

Ratio data regarding the respondents was reported in Table 3. Ages of the respondents ranged from twenty-three to sixty-four years. The mean age of respondents was 45.6 (SD = 8.15). Almost all vocational teachers in this study indicated that they had some work experience prior or concurrent to teaching with a mean of 11.55 years (SD = 8.08). This work experience ranged from one to forty years. The average number of years taught by respondents was 15.35 (SD = 7.85) with a range of one to thirty-four years.

Table 3

Ratio Demographic Information (n =194)

Variable of interest	Mean	Std. Dev.
Age (years) Range 23 - 64	45.60	8.15
Number of years taught Range 1 - 34	15.35	7.85
Years of work experience (excluding teaching experience) Range 1 - 40	11.55	8.08

Design and Instrumentation

A descriptive research design was used with data collected by a mail survey. This instrument was developed by the researchers and consisted of three sections. Section I included sixty-two items designed to determine the attitudes of vocational teachers using a five-point Likert-type scale (1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree). Three types of attitudes--evaluative (affective), knowledge (cognitive), and use (behavioral)--identified by Pettyjohn, Banikart, Fitzgerald, Misovich, Spiegler and Triplet (1986) guided the development of items for the survey instrument. Section II was designed to measure the awareness level and use of skill standards by vocational teachers. This section consisted of a list of thee twenty-two occupations funded by the Departments of Education and Labor to develop national skill standards. For each occupation, the respondent was asked to indicate their perceived awareness level (1 = not aware, 2 = limited awareness, 3 = somewhat aware, 4 = very aware) and whether they had or had not used these standards. Section III included demographic information about these vocational teachers.

Section I of the initial questionnaire consisted of 95 statements which were assembled from the review of literature. A panel of nine graduate students in vocational education examined the questionnaire for content and face validity. Items were changed according to their suggestions. To establish the reliability, the questionnaire was then sent to a sample of twenty-eight vocational teachers who were randomly selected from the population, but not in the original sample. Section I of the instrument was reduced to 62 statements and the resulting Cronbach's alpha coefficient of .87 for internal consistency was obtained. A test-

retest was also conducted to test for consistency over time. The percent of agreement of the test-retest for section I was 82%. For section II of the instrument a test-retest was also conducted. The percent of agreement was 87% for the awareness of skill standards and 97% for the use of skill standards.

Data Collection

Individuals selected to participate in this study were mailed a packet including a questionnaire, cover letter, and self-addressed stamped envelope. After the initial mailing, individuals who had not returned the questionnaire by the end of the second week received a reminder postcard. A second packet was sent out the third week that contained a reminder letter, questionnaire, and self-addressed stamped envelope. At the end of the sixth week 212 (61%) questionnaires were returned from vocational teachers in the sample. A total of 205 (97%) of the 212 surveys that were returned were usable. Follow-up of non-respondents was accomplished by taking a 10% random sample of non-respondents as recommended by Miller and Smith (1983). These non-respondents were contacted by telephone and asked for their views regarding 15 randomly selected attitudinal items, all items concerning use and awareness of skill standards, and their demographic characteristics. The mean scores of respondents and non-respondents on the vocational teachers' awareness of skill standard, attitudes toward skill standards, and use of skill standards were compared using a t test. No significant differences were found between the two groups of respondents and non-respondents, therefore, the results were generalized to all Ohio secondary vocational teachers.

Data Analysis

Descriptive statistics were used to report the frequencies and percentages of responses of vocational teachers' awareness of, attitude toward, and use of skill standards. Negative items were reversed for the analysis. An overall mean and standard deviation was calculated in order to determine the total attitudinal score.

Findings

Table 4 details the teachers' attitude toward skill standards. Item 1 had a modal response of strongly agree (5), for which fifty-nine percent of respondents indicated that students who have met entry level skill standards would have a smoother transition from school to work. Forty-one statements had a modal response of agree (4). In this discussion, only items with modes that include sixty percent or more of the responses will be discussed. Respondents agreed with item 15--that they used Ohio Competency Analysis Profiles standards to develop assessment techniques in their vocational programs (70%); item 55--they used Ohio Competency Analysis Profiles standards to develop curriculum in their vocational program (70%); and item 23--they used employability skills as a means for assessment of students' abilities in the vocational area that they taught (69%). Additionally, respondents agreed with item 12--national skill standards provide a bench mark for comparing skill levels (63%); item 38--a national skill standard system should be able to meet the changes in technology (62%); item 39--multiple levels of mastery should be a characteristic of a national skill standard system (62%); item 47--national skill standards provide a basis for educational goals (62%); item 36--national skill standards should help identify competent individuals for employment (61%); item 21--skill standards provide the basis for measuring an individual's ability (60%); and item 32--they used the Ohio Competency Analysis Profiles standards developed by the state in the vocational program that they taught (60%).

Table 4

Secondary Vocational Teachers' Attitudes Toward Skill Standards (n = 205)

Item number	Mode	f	%	Range
1. Students that have met the entry level skill standards will have a smoother transition from school to work than those who do not.	5	120	59	3-5
2. I believe that national skill standards enhance vocational education programs.	4	80	39	1-5
3. I have added standards to Ohio Competency Analysis Profiles based upon recommendations of business and industry.	4	105	51	1-5
4. Vocational programs that use national skill standards are more effective than those who do not use skill standards.	3	80	39	1-5
5. National skill standards are too specific.[a]	3	106	52	1-5
6. National skill standards will demand more accountability of vocational education programs than what is presently required.	3	120	59	1-5
7. National skill standards will improve occupational training.	4	93	45	1-5
8. The federal government should support the development of a national skill standard system.[b]	4	66	32	1-5
	3	65	32	1-5
9. National skill standards should decrease the time required by employers to screen employees.	4	93	45	1-5
10. A national skill standard system would purge vocational education of its mediocre teachers.	3	71	35	1-5
11. National skill standards would require vocational education to be market driven.	4	95	46	1-5
12. National skill standards provide a bench mark for comparing skill levels.	4	129	63	1-5
13. National skill standards should encourage students to take more ownership of their skill development.	4	104	51	1-5
14. Skill standards will help improve the vocational program that I teach.	4	76	37	1-5
15. I use Ohio Competency Analysis Profiles standards to develop assessment techniques in my vocational program.	4	143	70	1-5
16. Skill standards will make vocational education programs more accountable.	4	110	54	1-5
17. National skill standards will establish an unfair method of assessing students' abilities.[a]	3	85	42	1-5
18. National skill standards should not be an integral part of vocational education programs.[a b]	3	67	33	1-5
	4	65	32	1-5
19. National skill standards should have a positive effect on the productivity of the American work force.	4	112	55	1-5
20. Other countries have successfully used national skill standard systems.	3	177	86	1-5
21. Skill standards provide the basis for measuring an individual's ability.	4	123	60	1-5
22. I am not at all familiar with the national skill standards for my vocational program.[a]	2	66	32	1-5

(table continues)

Table 4 (continued)

Item number	Mode	f	%	Range
23. I use employability skills as a means for assessment of students' abilities in the vocational area that I teach.	4	141	69	2-5
24. Knowledge of subject area is not adequately assessed by skill standards.*	3	85	42	1-5
25. National skill standards will lower employer recruiting costs.	3	107	52	1-5
26. Vocational educator's technical competence will need to be upgraded in order to meet industry skill standards.	4	87	42	1-5
27. National skill standards would force closer alliances between education and business/industry.	4	120	59	1-5
28. National skill standards should have a positive effect on vocational programs.	4	115	56	1-5
29. Skill standards should be used by business and industry to determine who should be promoted.	3	84	41	1-5
30. A vocational education program that uses national skill standards will have a better reputation than those which do not use national skill standards.	3	80	39	1-5
31. With a national skill standard system in place, industry would demand better qualified students from vocational programs.	4	101	49	2-5
32. I currently use the Ohio Competency Analysis Profiles standards developed by the state in the vocational program that I teach.	4	122	60	1-5
33. A national skill standard system will be detrimental to vocational education.*	3	91	44	1-5
34. The skill standards I currently use in my vocational program do not match with those in business and industry.*	4	113	55	1-5
35. I would adhere to an industry based skill standard system for my vocational program.	4	116	57	1-5
36. National skill standards should help identify competent individuals for employment.	4	125	61	1-5
37. A national skill standard system will be a worth while investment.	3	89	43	1-5
38. A national skill standard system should be able to meet the changes in technology.	4	128	62	1-5
39. Multiple levels of mastery should be a characteristic of a national skill standard system.	4	127	62	1-5
40. I have not received assistance from the State Department of Education in implementing Ohio Competency Analysis Profiles.*	4	91	44	1-5
41. I would not use national skill standards developed by business and industry in my vocational program.*	4	98	48	1-5
42. National skill standards should increase the competitiveness of America in the global market place.	4	100	49	1-5
43. Other countries have successfully developed national skill standard systems.	3	181	88	1-5
44. National skill standards should improve the quality of America's goods.	4	91	44	1-5
45. National skill standards need to be very specific.	4	78	38	1-5
46. Students who have met the skill standards for their occupation should receive higher wages than those who do not.	4	106	52	1-5
47. National skill standards provide a basis for educational goals.	4	126	62	1-5

(table continues)

Table 4 (continued)

Item number	Mode	f	%	Range
48. I am familiar with skill standards that have been set in the vocational area that I teach.	4	97	47	1-5
49. Students from vocational programs with industry certification have higher level skills than students from vocational programs without such certification.	3	97	47	1-5
50. Business and industry should play the most important part in the development of national skill standards.	4	92	45	1-5
51. National skill standards will lower employer training cost.	3	87	42	1-5
52. National skill standards will help to sort out students that are not serious about their vocational program.	4	99	48	1-5
53. I have a strong understanding of skill standards within the vocational area that I teach.	4	102	50	1-5
54. National skill standards will help students to focus on their preparation for work.	4	112	55	1-5
55. I use Ohio Competency Analysis Profiles standards to develop curriculum in my vocational program.	4	142	70	2-5
56. Development of a national skill standard system should be the responsibility of business and industry.	3	69	34	1-5
57. A national skill standard system would not have any effect on how America will educate its children.[a]	4	100	49	1-5
58. I currently use portfolios as a means of assessment of students' abilities.	4	98	48	1-5
59. I would not use skill standards as a means for assessment of students within the vocational area that I teach.[a]	4	95	46	2-5
60. National skill standards are too rigid.[a]	3	120	59	1-5
61. National skill standards should not be portable across the nation.[a]	3	87	42	1-5
62. Students that complete a high school vocational program should be able to meet entry level job requirements.[b]	5	96	47	2-5
	4	94	46	2-5
Overall mean for vocational teachers' attitude toward skill standards.	3.51(M)		.423(SD)	

Note. Rating scale was 1=Strongly disagree, 2=Disagree, 3=Undecided, 4=Agree, 5=Strongly agree. Scores of negative items were reversed
[a]Denotes negatively stated items. [b]Denotes items that are bi-modal.

Nineteen of the items received modal response of undecided (3). Once again, only the items with sixty percent response rate or higher will be discussed. Vocational teachers were undecided about item 43--whether other countries had successfully developed national skill standards systems (88%) or item 20--whether other countries had successfully used national skill standard systems (86%).

Only one item had a modal response of disagree (2). Respondents disagreed with item 22--they were familiar with the national skill standards for their vocational program (32%). There were no items with a modal responses of strongly disagree (1).

Three of the statements had bi-modal responses. Bi-modal was defined as having the number of respondents being within two responses between categories. Respondents were split between being undecided (3) or agreeing (4) that the federal government should support the development of a national skill standard system (item 8) and that national skill standards should be an integral part of vocational education programs (item 18). Vocational teachers responses were evenly divided between strongly agree (5) and agree (4) that students that have completed a high school vocational program should be able to meet entry level job requirements (item 62). The overall mean for the attitude of vocational teachers toward skill standards was 3.51 with a standard deviation of .423.

Section II of the instrument was designed to determine whether or not vocational teachers were aware of and had used occupation skill standards. On the questionnaire there were four response areas for vocational teachers to indicate their level of awareness of skill standards (1 = not aware, 2 = limited awareness, 3 = somewhat aware, 4= very much aware). Since there was a very small number of individuals that indicated the last three responses (limited awareness, somewhat aware, very much aware) toward awareness, the responses were classified as being either aware or not aware. Most all of the vocational teachers in Ohio were unaware of all twenty-two occupational skill standards areas (Table 5). Skill standard areas that vocational teachers were most aware of were Automotive, Auto Body, and Truck Technicians (22.9%), Welding Occupations (22.4%), and Computer Aided Drafting (22.4%). Table 5 also included the indicated use of skill standards by vocational teachers. The three most frequently used skill standards were: Automotive, Auto Body, and Truck Technicians (9.3%), Welding Occupations (9.3%), and Computer Aided Drafting (8.8%). The rest of the skill standards were used by less than 8 percent of the respondents. It should be noted that individuals that indicated any awareness of skill standards, were not necessarily in the program area that would use such standards. For example, vocational teachers from different vocational areas indicated that they were aware of skill standards in Welding Occupations but they had not used these standards.

Table 5

Awareness and Use of Skill Standards by Ohio Vocational Teachers (n = 205)

Skill standard area and grantee	Were aware f	Were aware %	Have used f	Have used %
1. Agriscience/Biotechnology (National FFA Foundation)	34	16.6	15	7.3
2. Air Conditioning, Refrigeration and Power (Southern Association of Colleges and Schools)	25	12.2	7	3.4
3. Automotive, Auto Body and Truck Technicians (National Automotive Technical Education Foundation)	47	22.9	19	9.3
4. Biotechnical Sciences (Education Development Center)	15	7.3	6	2.9
5. Chemical Process Industries (American Chemical Society/EDC)	13	6.3	3	1.5
6. Computer Aided Drafting (Foundation for Industrial Modernization)	46	22.4	18	8.8
7. Electronics (Electronics Industries Association)	35	17.1	11	5.4
8. Food Marketing Industry (National Grocers Association)	37	18.0	11	5.4
9. Forest/Wood Products (Production and Manufacturing Foundation for Industrial Modernization)	26	12.7	9	4.4
10. Hazardous Materials Management Technician (CORD)	38	18.5	15	7.3
11. Health Science and Technology (Far West Laboratory)	18	8.8	6	2.9
12. Heavy Highway/Utility Construction (Laborers-AGC Education and Training Fund)	13	6.3	5	2.4
13. Human Services Occupations (Human Services Research Institute/EDC)	25	12.2	7	3.4
14. Photonics Technician (CORD)	9	4.4	1	0.5
15. Printing (The Graphic Arts Technical Foundation)	29	14.1	7	3.4
16. Welding Occupations (American Welding Society)	46	22.4	19	9.3
17. Electronics (American Electronics Association)	31	15.1	10	4.9
18. Electrical Construction (National Electrical Association)	39	19.0	14	6.8
19. Industrial Launderers (Institute of Industrial Launderers)	8	3.9	3	1.5
20. Metalworking (National Tool and Machining Association)	30	14.6	8	3.9
21. Retail Trade (National Retail Federation)	27	13.2	10	4.9
22. Tourism, Travel and Hospitality (Council on Hotel, Restaurant and Institutional Education)	36	17.6	15	7.3

Implications and Recommendations

The low level of Ohio vocational teachers awareness of skill standards indicates that this is an area that demands a more concentrated effort from proponents of national skill standards. If standards are to be used by vocational teachers then their awareness level and attitudes toward skill standards need to be increased. Individuals working with occupations that are identifying and developing skill standards will need to increase their efforts of promoting skill standards to vocational teachers and teacher educators.

This study provided evidence for the need to further educate secondary vocational teachers about national skill standards. If these standards are to be used, vocational teachers must first be made better aware and knowledgeable about standards if they are to support them. Some ways that the attitudes of these vocational teachers may be increased are through their participation in educational programs sponsored by professional organizations related to their service area such as American Welding Society, National Automotive Technical Education

Foundation, Electronics Industries Association, and Council on Hotel, Restaurant and Institutional Education. In addition, vocational teachers should participate and be active in both state and national vocational education associations where these topics are addressed. The respondents' attitudes were most favorable for the use of skill standards (items 15, 23, 32, 34, 55) as indicated by the number of responses to these statements, even though there was ample room for improvement in this area. It should also be noted that the standards set by the state (Ohio Competency Analysis Profiles) were being used by vocational educators to develop curriculum and assessment techniques in their vocational programs.

Ohio vocational teachers indicated that they would use national skill standards in their vocational programs, but they lacked information about what makes up these skill standards and how these standards could be used in secondary vocational programs. The information from this study should be used in the design of pre-service education programs. Additionally, vocational teacher educators can use this information to develop and implement in-service. Knowledge of these standards also will help vocational teachers in planning, improving, and evaluating their programs.

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